

Remarks

The Office Action dated July 11, 2003 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-20 are pending in this application. Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 stand rejected. Claims 10 and 20 stand objected to. Claims 3, 4, 7, 8, 13, 14, 17, and 18 have been withdrawn.

The rejection of Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 under 35 U.S.C. § 112, first paragraph, is respectfully traversed.

Applicants respectfully submit that contrary to the suggestion at pages 2-3 of the Office Action, the subject matter contained in the claims is described in the application in such a way as to enable one skilled in the art to make and use the invention.

The Federal Circuit has opined in *Verve LLC v. Crane Cams, Inc.*, 65 USPQ 2d 1051, 1053-1054 (Fed. Cir. 2002), that "[p]atent documents are written for persons familiar with the relevant field; the patentee is not required to include in the specification information readily understood by practitioners, lest every patent be written as a comprehensive tutorial and treatise for the generalist, instead of a concise statement for persons in the field."

In this case, Applicants submit that the specification is complete and that one skilled in the art would know how to position an ultrasonic phased array probe adjacent the bottom surface of the jet pump beam. Any suitable means of positioning the ultrasonic phased array probe would satisfy the recitations of the claims, for example, an ultrasonic probe positioning tool, a robotic tool manipulator, or manual positioning by hand. Applicants submit that the scope of the claims are not limited by the means that is used by one skilled in the art to position the ultrasonic

phased array probe adjacent the bottom surface. Also, Applicants submit that one skilled in the art knows that the examination of the jet pump beams is performed during times when the reactor is shut down for maintenance and/or refueling. During reactor shut down there is no appreciable coolant flow or flow vibrations.

Further, one skilled in the art knows what is meant by the term scanning in relation to ultrasonic phased array probes because it is well known in the art. Particularly, paragraph 25 of the present application describes how the ultrasonic pulse is swept through the test material during examination, or scanning by the probe. Also, U.S. Patent No. 6,332,011 to Johnson describes that the ultrasonic sound beam emitted by the phased array ultrasonic probe is electronically steered along a weld during the scan of the weld, see Col. 4, lines 17+. Accordingly, Applicants submit that Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 meet the requirements of Section 112, first paragraph.

For the reasons set forth above, Applicants respectfully request that the Section 112 rejection of Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 be withdrawn.

The rejection of Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 under 35 U.S.C. § 112, second paragraph, is respectfully traversed.

For at least the reasons explained above, Applicants submit that Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 are definite and particularly point out and distinctly claim the subject matter which Applicants regard as their invention.

For the reasons set forth above, Applicants respectfully request that the Section 112 rejection of Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 be withdrawn.

The rejection of Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 under 35 U.S.C. § 103(a) as being unpatentable over De Briere et al. (US 4,394,345) in view of Johnson (US 6,332,011) is respectfully traversed.

De Briere et al. describe an ultrasonic transducer assembly that positions the ultrasonic transducers adjacent the top surface of a jet pump beam (see Figures 3 and 4) or adjacent the side surfaces of the jet pump beam (see Figures 7 and 8). De Briere et al. do not describe nor suggest positioning the ultrasonic transducers adjacent the bottom surface of the jet pump beam.

Johnson describes a method of scanning a shroud weld that includes positioning a phased array ultrasonic probe on an upper surface of the shroud head flange. Johnson does not describe nor suggest positioning a phased array ultrasonic probe adjacent the bottom surface of a jet pump beam.

Claim 1 of the present application recites a method of inspecting a jet pump beam in a nuclear reactor that includes the step of "positioning at least one ultrasonic phased array probe adjacent the bottom surface of the jet pump beam".

Claim 11 of the present application recites a method of inspecting a jet pump beam in a nuclear reactor that includes the step of "positioning at least one ultrasonic phased array probe adjacent the bottom surface of the jet pump beam".

De Briere et al. and Johnson, alone or in combination, do not describe nor suggest a method of inspecting a jet pump beam in a nuclear reactor as recited in Claim 1 nor a method of inspecting a jet pump beam in a nuclear reactor as recited in Claim 11. Particularly, De Briere et al. and Johnson, alone or in combination, do not describe nor suggest positioning at least one ultrasonic phased array probe adjacent the bottom surface of the jet pump beam. Rather, De

Briere et al. describe positioning ultrasonic transducers adjacent the top surface or the side surface of a jet pump beam, and Johnson describes positioning a phased array ultrasonic probe on an upper surface of the shroud head flange.

Further, the Office Action, at page 4, refers to Col. 6, lines 3+, of DeBriere et al. as teaching positioning the probes on the bottom surface of the jet pump beam. Applicants disagree with this suggestion. DeBriere et al. describe in Col. 6, with reference to Figures 7 and 8, that "extensions such as wings 140 of the carriage 138 extend below the raised central portion 121 of the beam 110 in order to examine the beam 110 for cracks from below". Applicants submit that Figure 8 clearly shows that the transducers are positioned adjacent the side surfaces of the jet pump beam and not the bottom surface of the beam. Further, DeBriere et al. describe in Col. 6 that "the wings 140 extend below the raised central portion 121 of the beam 110, as shown in Fig.8, . . . the transducers 155 are horizontally mounted about 0.1 inches below the raised central portion 121 of the beam. In the alternative, the transducers 155 can be tilted slightly upward from the horizontal . . . in order to focus from below at the upper surface of the beam 110". Applicants submit that this description does not teach positioning the ultrasonic transducers on the bottom surface of the beam. Accordingly, Applicants submit that independent Claims 1 and 11 are patentable over DeBriere et al. and Johnson, alone or in combination.

Claims 2, 5, 6, and 9-10 depend from independent Claim 1, and Claims 12, 15-16, and 19-20 depend from independent Claim 11. When the recitations of dependent Claims 2, 5, 6, and 9-10 and dependent Claims 12, 15-16, and 19-20 are considered in combination with the recitations of Claims 1 and 11 respectively, Applicants respectfully submit that Claims 2, 5, 6, 9-

10, 12, 15-16, and 19-20 likewise are patentable over DeBriere et al. and Johnson, alone or in combination.

For the reasons set forth above, Applicants respectfully request that the Section 103(a) rejection of Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 be withdrawn.

The objection to Claims 10 and 20 because of informalities is respectfully traversed.

Claims 10 and 20 have been amended to recite "and extending from the top surface of the beam at least partially towards the bottom of the beam" which Applicants submit corrects the informalities noted in the Office Action.

For the reasons set forth above, Applicants respectfully request that the objection to Claims 10 and 20 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,



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Michael Tersillo  
Registration No. 42,180  
ARMSTRONG TEASDALE LLP  
One Metropolitan Square, Suite 2600  
St. Louis, Missouri 63102-2740  
(314) 621-5070